

**CLAIMS**

1. A method of identifying a substance suitable for use in the treatment of a leukocyte-associated inflammatory disease which modulates the activity of a polypeptide encoded by a human MS4A gene, wherein the method comprises combining a candidate substance with said polypeptide and measuring the effect of the candidate substance on the activity of said polypeptide.
2. A method according to claim 1 wherein the polypeptide forms a human ion channel.
3. A method according to any claim 2 wherein the polypeptide is a product of the CD20 gene.
4. A pharmaceutical composition comprising a compound that inhibits the influx of calcium ions through a human ion channel formed by a MS4A gene product and a pharmaceutically acceptable carrier.
5. A composition according to claim 4 wherein the MS4A gene product is a CD20 gene product.
6. The use of an antibody which is immunoreactive with a polypeptide encoded by a human MS4A gene, an antisense oligonucleotide comprising a nucleotide sequence complementary to a polynucleotide comprising a nucleotide sequence encoding that polypeptide, or a polynucleotide probe comprising at least 15 consecutive nucleotides of that polynucleotide, in the preparation of a pharmaceutical that inhibits the accumulation of leukocytes in human tissue.
7. The use of an antibody which is immunoreactive with a polypeptide encoded by a human MS4A gene, an antisense oligonucleotide comprising a nucleotide sequence complementary to a polynucleotide comprising a nucleotide sequence encoding that polypeptide, or a polynucleotide probe comprising at least 15 consecutive nucleotides of that polynucleotide, in the preparation of a pharmaceutical for the treatment of a leukocyte-associated inflammatory disease.
8. The use according to claim 7, in which the disease is a mast cell, basophil, B lymphocyte, lymphocyte or eosinophil-associated disease.

9. The use according to claim 8, in which the mast cell, basophil, B lymphocyte, lymphocyte or eosinophil-associated disease is asthma or allergic rhinitis.
10. The use according to claim 7 in which the disease is a macrophage, lymphocyte, neutrophil-associated disease such as chronic obstructive pulmonary disease, adult respiratory distress syndrome, rheumatoid arthritis or inflammatory bowel disease.
11. The use of a human MS4A inhibitor in the preparation of a pharmaceutical for the treatment of a leukocyte-associated inflammatory disease.
12. The use of a human CD20 protein inhibitor in the preparation of a pharmaceutical for the treatment of a leukocyte-associated inflammatory disease.